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Business is sent back into the classroom

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Learning from experiments is an essential part of innovation, and yet this approach is inherently at odds with the traditional approach to business planning. How should managers reconcile these conflicting objectives?

O ver the past few years, innovation has taken a back seat as business leaders have faced a period of recession, a crisis in governance and the growing challenge of terrorism. Nonetheless, the long-term health of organisations has always depended, and will always depend, on innovation. Competitors relentlessly copy great products, creative services and best practices. The only way to avoid becoming old is continuously to create the new.

People love good stories. Those about innovation glamourise the solitary, brilliant and heroic inventor. And they magnify that light bulb moment, when an idea for a better product or solution appears, as if from nowhere. It is a story with undeniable popular appeal.

In truth, ideas are cheap. In fact, encouraged by a wave of consultants preaching the need to "break all of the rules," corporations have become much more skilled at engaging their workforces in identifying new opportunities. But an idea only marks the start of the innovation journey and numerous barriers stand between the initial idea and profitable business.

◆ The challenge of innovation is learning

Suppose your organisation generates dozens of possibilities. Clearly, the next step is to identify the ones worth pursuing. With research and due consideration, the ideas will fall into three categories. The first consists of definitive winners that demand immediate investment. With luck, there may be one of these. The second category is those ideas that can be eliminated quickly. However, it is the third category – the "maybes" – that is the most important. This consists of ideas that are plausible but not overwhelmingly compelling.

Leaders that believe too much in the romantic version of the innovation story spend far too much effort on the search for that one elusive earth-shattering idea. The real challenge of innovation, however, is making the most of the "maybes". This requires constant experimentation, learning from these experiences and then adapting accordingly.

Many managers will not like the sound of this. After all, shareholders demand reliable, predictable results from corporations. They loathe uncertainty. It is, therefore, essential when experimenting with new ideas to learn from experience as quickly as possible. Spending on experiments that grow in promise can quickly be doubled. On the other hand, spending on those that do not can be suspended just as quickly.

We have spoken with many managers of innovative ventures that preach the necessity of taking an "experiment and learn" approach.

The first part of this – the freedom to experiment – is easy. But the second – learning from experience – is not.

Scientists have perfected a process for learning from experimentation – the scientific method. In fact, there is no other alternative. And it follows that the key to mastering the management of innovation is excelling at the discipline of the scientific method.

But learning through the scientific method is difficult even for scientists. It hardly comes naturally. Humans are social creatures, and are much more inclined to make sense of the world through storytelling and rumour-sharing than through controlled experimentation and rigorous analysis.

◆ Where corporations succeed in learning – and fail

Some companies have recognised the value of the scientific method. For example, Toyota excels in continuous process improvement by training factory-floor employees in the scientific learning approach and encouraging mini-experiments aimed at improving production steps. Each employee understands how to state a hypothesis, create an experiment to test the hypothesis, and collect data to validate or invalidate it.

Part of the reason this approach works, however, is that experiments

that Toyota encourages tend to be inexpensive, quick and unambiguous. They either succeed or fail based on identifiable and clear measures.

However, many promising business innovations simply cannot be tested at such a low expense, with such rapidity or with complete clarity. In other words, companies must confront the challenge of learning from much more difficult experimental environments.

Certain groups within the business community have well-established traditions of scientific experimentation. For example, market research departments have perfected approaches to test marketing new products and research departments use scientific methods to develop and commercialise new technologies.

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But this leaves a gaping hole. It is in testing entirely new business models – in learning from strategic experiments – that companies struggle. Consider the dotcom environment of the late 1990s. Companies large and small threw millions of dollars at new opportunities with unproven business models. Results were far from immediately available. Evidence supporting or not supporting the sustainability of each new business experiment arrived in a piecemeal fashion, over periods of several quarters or even years. There was no single measure of success. Instead, there were partial data along multiple dimensions that somehow had to be sensibly interpreted.

This is far from the ideal experimental environment. It is more akin to, say, the science of evaluating the health effects of a new pharmaceutical (which might involve multiple measures over several years), than to the science of validating automotive safety features in crash tests (in which data can be reduced to a few key measures, and is available immediately.)

This is not to say that a scientific approach to evaluating new business experiments is out of reach. But it is, perhaps, a bit unnatural. General managers view themselves primarily as leaders and rarely, if at all, as scientists. Nonetheless, they are capable of scientific inquiry despite the unfamiliar environment. They must also be aware of the need for it and understand how organisational realities and the demands of science conflict.

◆ Barriers to learning from strategic experiments

Resources allocated to new business experiments are often significant but with heavy spending comes high personal consequences – either in compensation or career trajectory – that can distort the process of interpreting results. Competition within organisations, over power or over resources, can make the situation worse. Several interpretations of results are possible, none of which can be fully proved or disproved. Thus, the likelihood that interest or influence will distort the learning process is high indeed.

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Back-room political manoeuvring makes for a vivid narrative, but there is an even bigger demon tainting the learning process – one that is cleverly disguised as something routine and administrative. That demon is the general management planning process.

When testing experimental new businesses, the planning process and the learning process (the scientific method) are closely related. It is through the planning process that a hypothesis about the future of the innovative business is developed, predictions made, and, at some later point, outcomes compared with predictions. Analysis of this comparison gives evidence that either supports or refutes the hypothesis.

Fortunately, most CEOs insist on a rigorous and disciplined planning process. Unfortunately, they do so in such a way that is incompatible with learning. Conventional planning practices are based on two premises that simply do not apply when testing experimental new businesses.

The first is that of reliable predictability. Plans are assumed to be accurate. In fact, in many companies, the basic culture is that you perform up to plan – or else. A "performance-oriented culture", in which managers are held accountable if they fail to deliver results that meet or exceed their targets, is often cited as a hallmark of successful companies. But in experimental businesses, too much is unknown for such strong demands to be made of managers. The hope should not be to bring performance in line with accepted standards, it should be to learn what standards are possible.

The second premise is an ongoing concern. In mature businesses, each quarter looks much like the previous one. Thus, a snapshot view of the business that looks at one period only tells a great deal about performance. It is either improved over the previous period or it is not. Experimental businesses, by contrast, are dynamic. Every quarter is different. Sensible analysis of results relies a great deal on interpreting trends.

Many CEOs cite an approach to planning and accountability as a cornerstone of their organisation's success. Nonetheless, they must alter it if there is to be a reasonable chance of learning from strategic experiments. In fact, because of the two faulty premises, seven specific attributes of conventional planning practices must be changed for strategic experiments. We call the new approach to planning theory-focused planning (see box).

◆ The innovation imperative

The twin forces of globalisation and the digital revolution are reshaping the economy at a remarkable rate. Just as these forces make past business models obsolete, they open doors to new opportunities. Look inside your organisation and you will find hundreds of ideas about where these opportunities lie – many of them possible winners.

The organisations most prepared to create the future are those skilled at learning from expedient experimentation. There are many barriers to learning from experiments with new business models – most troublesome are conventional planning practices.

Using the seven principles of theory-focused planning greatly improves the odds of learning quickly.

The Seven Principles of Theory-Focused Planning

■ **Principle 1** **Minimise detail**. Typical plans within mature businesses include breakdowns of the revenue forecast by product line, region and month. This makes it easier to troubleshoot problems. For example, it helps to identify that red widget sales in the north-west sub-region declined because several experienced salespeople unexpectedly left the company.

Such troubleshooting, however, depends heavily on reliable predictability. Strategic experiments cannot benefit from such detail. Instead, plans should focus on resolving a few critical unknowns that can either make or break the business. For example, critical unknowns might include: can my company produce the new product at a low enough cost to attract customers? When will customers develop an interest in the new product? How soon will the new technology avail itself to reliable production?

■ **Principle 2** **Focus on theory, not numbers.** In most planning documents within mature businesses, you will find endless tables of numbers offering detailed predictions of future performance. But in new businesses, the theory used to produce the predictions is far more important than the predictions themselves – which are nearly always wrong anyway.

In order to learn, a specific theory or hypothesis must be tested. Some practising managers cringe at the word "theory". It sounds like the opposite of "practical", but it is not. New businesses are gambles on a theory about what can work in future markets. An investment in a new business is a bet on the theory. Therefore, a systematic approach to testing the theory is sensible protection of that bet.

Unfortunately, the business planning tool of choice, the spreadsheet, helps little. While it is a wonderful tool for processing data, it is a horrible tool for communicating, saving and re-examining a theory. Spreadsheets place numbers at the forefront; they bury the underlying theory in hidden and arcane equations. Visual approaches to diagramming theories are much more helpful.

■ **Principle 3** **Predict trends.** Typical plans ask for a prediction for the top line and bottom line for the coming year. This makes sense when each year looks much like the last. Strategic experiments, however, are extraordinarily dynamic. There can be tremendous changes from month to month. More important than a result for any given time period is the trend over several months or quarters.

Therefore, instead of predicting aggregate results for long periods of time, it makes much more sense to predict trends. At first, this may appear to demand even more from planners. After all, predicting a trend is akin to making many predictions at small intervals. But the predictions do not need nearly the same accuracy as is required in mature businesses. In fact, what is important is the shape of the curve. Many shapes are possible, including exponential growth curves, s-curves, sudden jumps, worse-before-better curves and various combinations of these. Adequate predictions combine the shape of the curve with rough guesses for timing and magnitude of the changes anticipated.

■ **Principle 4** **Mind your history.** Plans for mature corporations look strictly ahead. At most, they include results for the most recent period. Little history before that is thought relevant. Plans for strategic experiments, however,

should include as much detailed history as possible. Because strategic experiments are so dynamic, understanding trends is crucial. Plans should include graphs that show trends in relevant performance measures, month by month, back to the launch of the business. This enables thorough comparisons between predicted trends and actual outcomes. Significant disparities serve as evidence to debunk the theory on which the business is based. Analysis of these disparities drives the learning process. In turn, these lessons alter strategies and enable companies to focus on a winning approach.

■ **Principle 5** **Iterate through plans frequently.** Typical planning practices within mature corporations call for thorough reviews of strategy only annually. Mid-year, there may be many status checks but these are used only to troubleshoot any emergent operational problems. In strategic experiments, in which the entire business model is a mere hypothesis, thorough reviews of strategy must occur much more often – at least quarterly and even monthly in fast-moving industries.

The competitor that wins may not be the one that starts first or starts with the best strategy. It may well be the one that learns the quickest. The learning rate is directly related to the rate of iteration through the planning process. A company that re-evaluates plans monthly has the potential to learn 12 times more quickly than a company that only does so annually. Such high planning frequency may seem impractical. But principles one to three reduce demands on planners, so extra time should be available to revise plans often.

■ **Principle 6** **Identify non-financial performance measures.** Plans for mature business focus heavily on financial results. But financial measures, such as margins, profits and returns-on-investment, have less utility for strategic experiments. Profitability, for example, tells you little in the early life of an experimental business. You know it will be negative, and that it will likely get worse before it gets better. But that is little to go on. Measures of performance that are more closely tied to specific business operations, such as customer satisfaction, qualified sales leads or reliability of a manufacturing process, are more useful because they provide earlier signs that a strategy is either working or failing.

■ **Principle 7** **Hold innovation leaders accountable for learning, not results.** Once a plan is in place, leaders within mature businesses often view their duty as implementing the plan as stated and delivering the expected results. If they fall behind, the conditioned response may often be to keep a low profile while working twice as hard, hoping to get back on track.

This response can be disastrous for strategic experiments, however, because it brings learning to a halt. Leaders of strategic experiments must be reassured by their superiors that it is well understood the plan is just a hypothesis, and the goal is to learn and adapt as quickly as possible. If they feel reassured in this way, leaders are much more likely to discuss openly with their bosses what is going wrong and why. In fact, if they know they are to be evaluated on how quickly they learn, they will go out of their way to demonstrate the quality of their thought process. They will want to demonstrate their ability to adapt when a business does not turn out as expected.